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G5R RB265 RB73

(56) Documents Cited

EP 0817103 A2  
[www.napster.com](http://www.napster.com) [www.soundamerica.com](http://www.soundamerica.com)  
[www.soundcentral.com](http://www.soundcentral.com) IBM Technical Disclosure  
Bulletin (1994), Vol. 37, No. 6B, "Multimedia Audio on  
Demand"

(58) Field of Search

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ONLINE: ELSEVIER, EPODOC, IEL, INSPEC, INTERNET,  
JAPIO, TDB, WPI

(54) Abstract Title

**Music management system with plurality of download formats**

(57) A music management system comprises a central unit having a library of songs stored thereon, each being stored in a plurality of audio signal formats. The system includes a searchable database of song parameters and a remote processor adapted to be connected to the central unit via a data communications link. The processor comprises means for searching the database and means for obtaining audio signal data, once a preferred song and signal format have been selected. The connection may be made over the internet. A data sample rate may be selected for each song. The processor may further include means for allowing a user to transfer money to the central unit, in response to a download request.

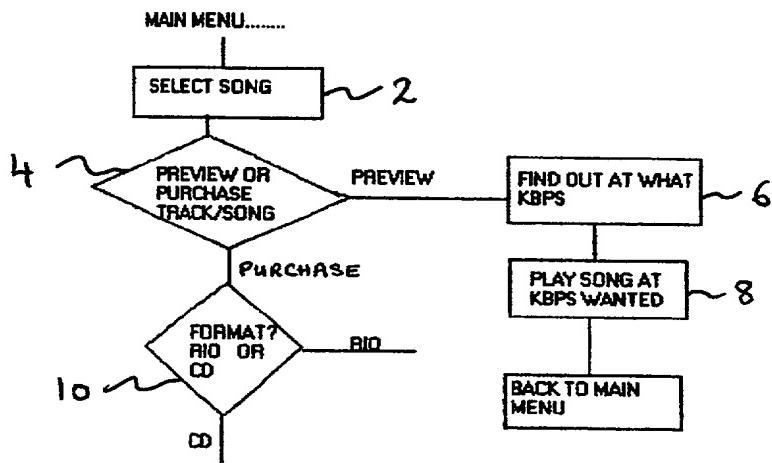


FIG. 1

At least one drawing originally filed was informal and the print reproduced here is taken from a later filed formal copy.

This print takes account of replacement documents submitted after the date of filing to enable the application to comply with the formal requirements of the Patents Rules 1995

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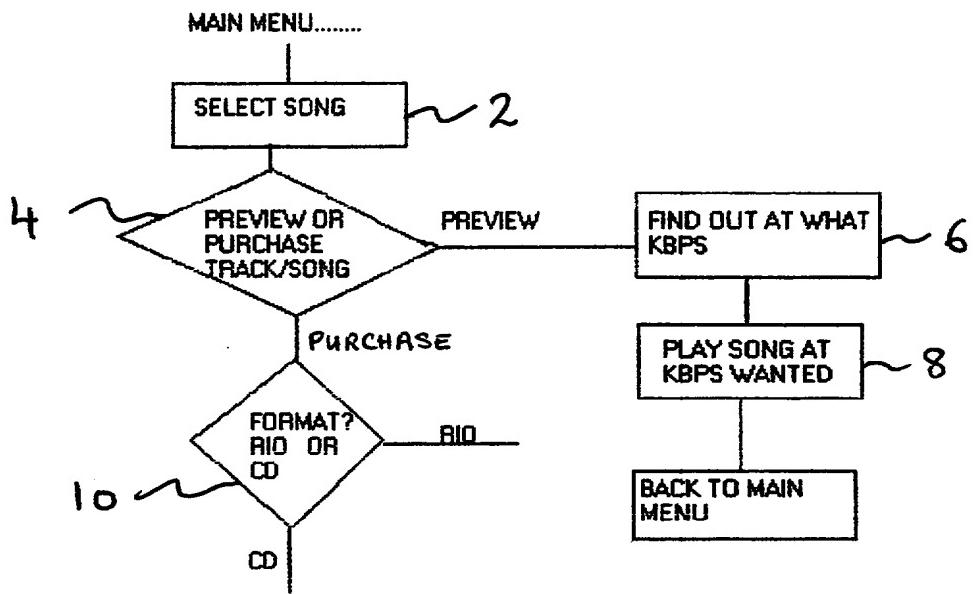


FIG. 1

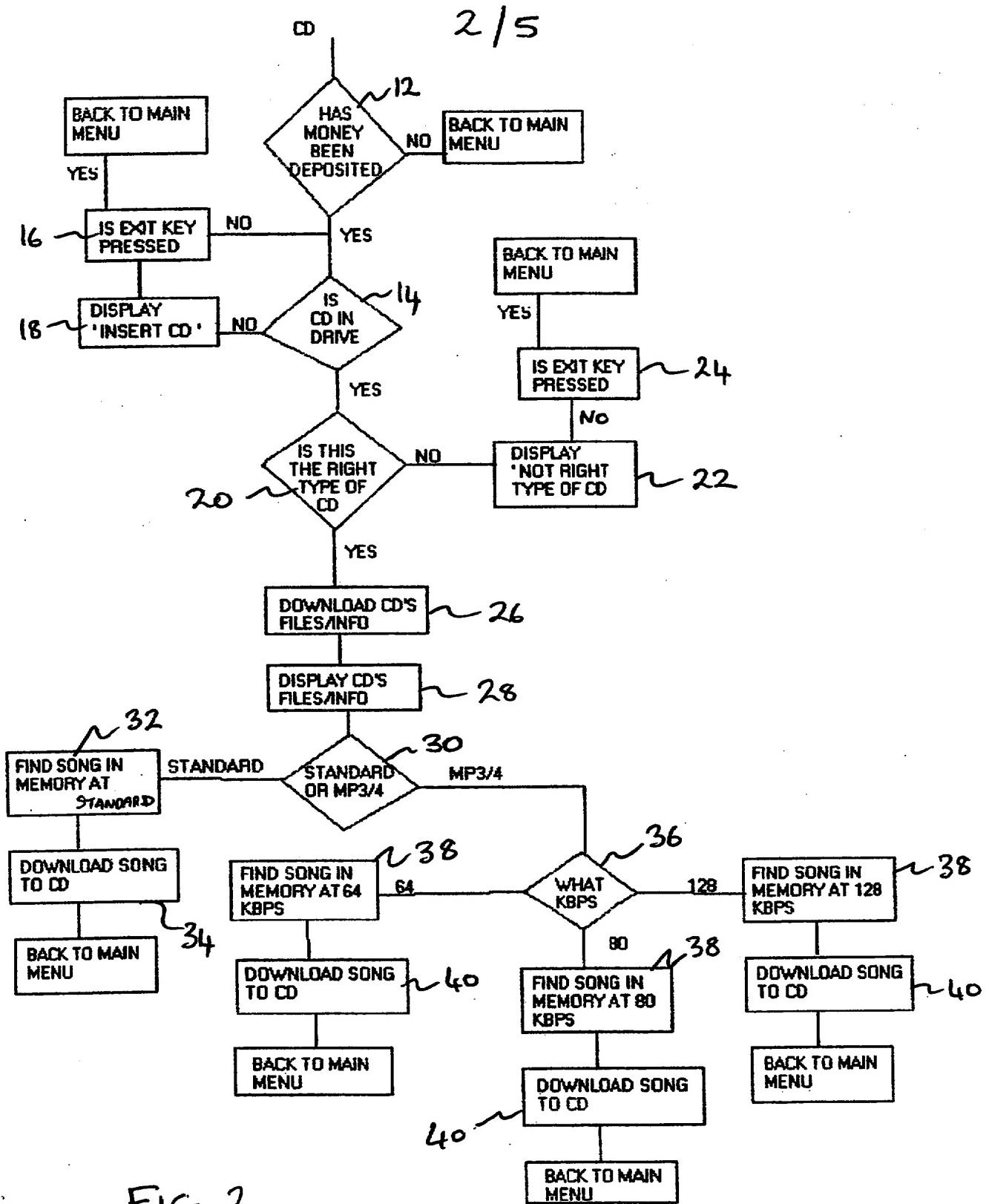


FIG. 2

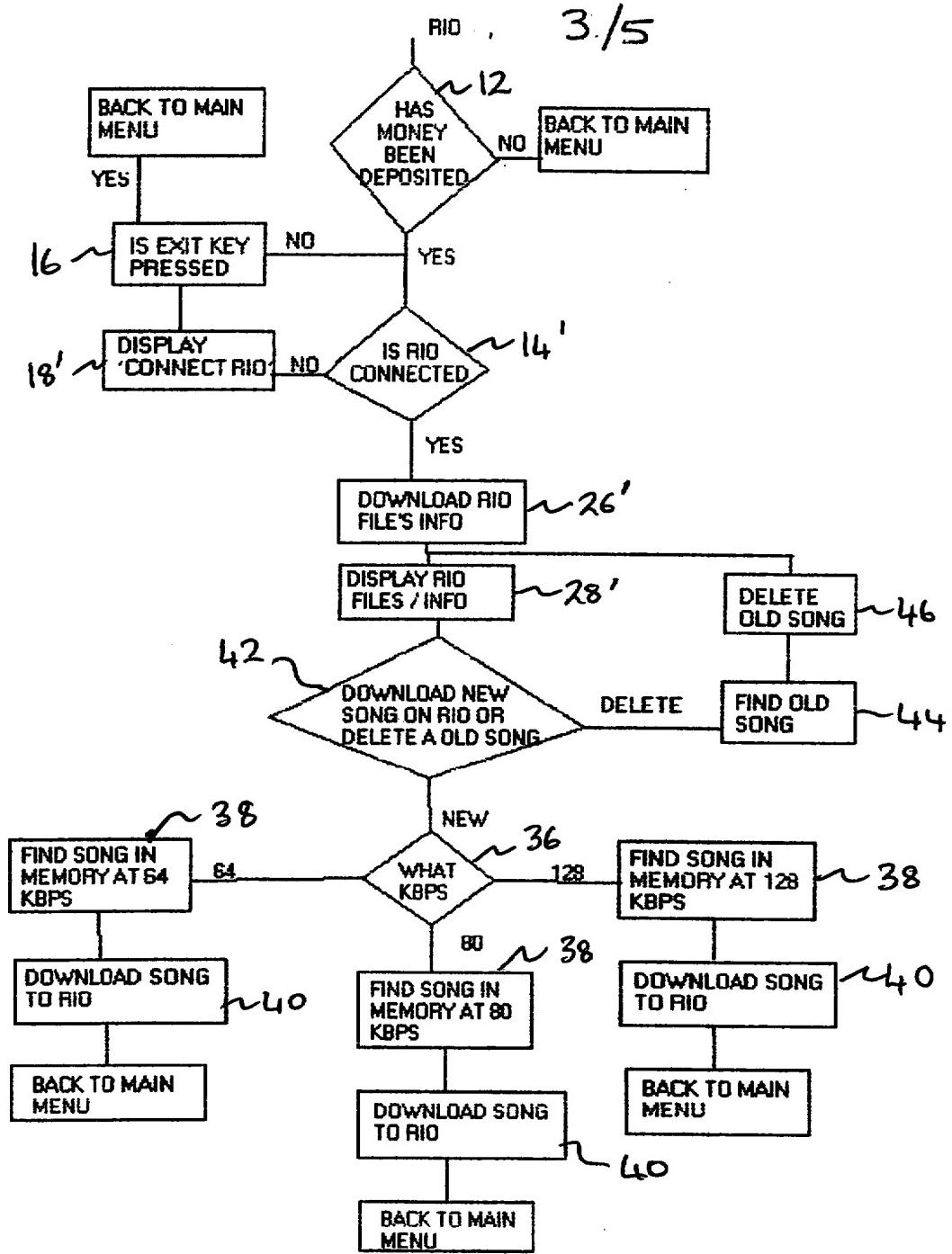


FIG. 3

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AFTER THE SONGS ARE DOWNLOADED  
AND BEFORE THE BOX LOGS OF THE INTERNET

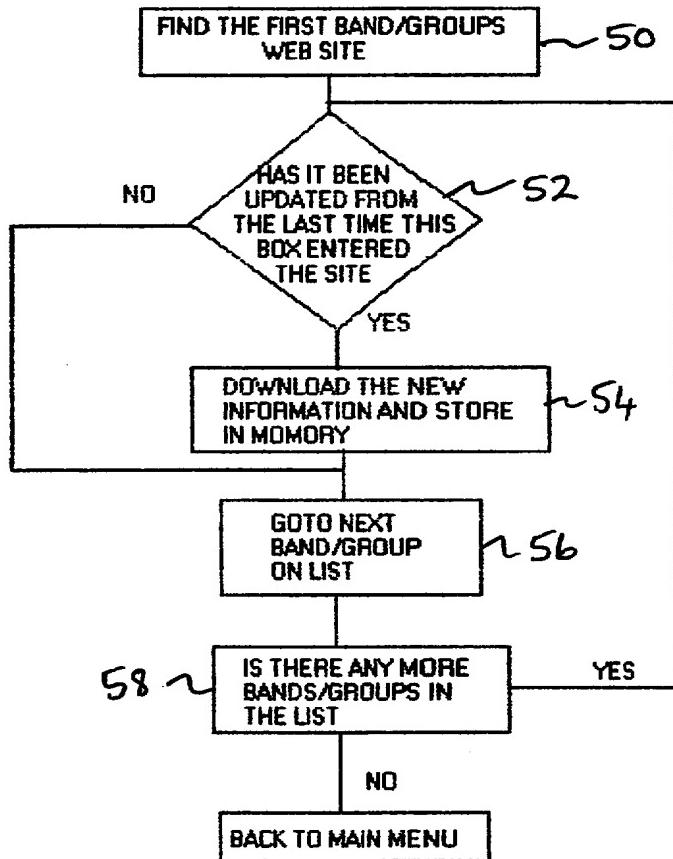


FIG. 4

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AFTER SONGS AND BANDS/GROUPS  
INFORMATION HAS BEEN DOWNLOAD AND  
THE BOX HAS LOGED OF THE INTERNET

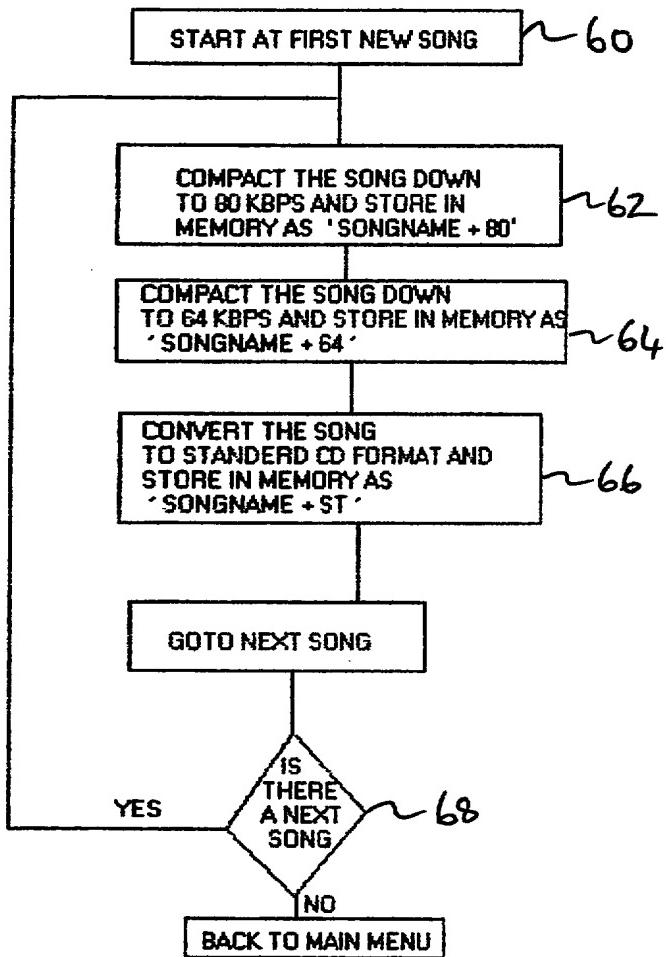


FIG. 5

**MUSIC MANAGEMENT SYSTEM**

The present invention relates to a music management system.

- 5     Music and audio files can be downloaded from the internet to an individual's computer in a given format such as MP3, the most popular internet audio format. Such audio files in MP3 format can also be downloaded to a rio which is a portable MP3 player. However, in general such methods can be relatively complex and time consuming for the user since the user needs to search the internet for the music he  
10    requires and the user may have difficulties locating a particular desired song. Furthermore, the songs located may only be available in other formats, such as standard or MP4, which are not suitable for downloading to a rio.

15    The present invention has been made from a consideration of the disadvantages associated with conventional methods for downloading music from the internet and in order to provide a dedicated music management system which facilitates the location and download of music by the user from a central site without requiring internet access.

- 20    According to the present invention there is provided a music management system comprising a central unit having a library of songs stored therein, such songs being stored in each of a plurality of audio signal formats and a searchable database of parameters relating to such songs, a remote processor unit adapted to be connected to said central unit by a data communications link for transferring data from said central  
25    unit to said processor unit, said processor unit comprising means for searching said database on said central unit, means for selecting a song from said library, means for selecting an audio signal format, means for obtaining data corresponding to such selected song and format from said central unit and means for storing such obtained data.

Preferably, said storage means comprises means for storing such obtained data on a portable memory device such as a compact disc and/or rio. Preferably, said processor unit comprises a CD or rio read/write device.

- 5     Preferably, said means for selecting a format comprises means for selecting from a range of predetermined formats. Preferably, such predetermined formats include uncompressed standard, and compressed MP3 and/or MP4 format. Preferably, said processor unit comprises means for selecting a sample rate. Preferably, said data obtaining means obtains data corresponding to such selected sample rate. Preferably,  
10    said sample rate selection means allow selection from a range of predetermined sample rates. Preferably, such predetermined sample rates include 64 kilo bytes per second (KBPS), 80 KBPS and 128 KBPS. Such sample rates may be within the range of 16 KBPS to 256 KBPS.
- 15    Preferably, one or more of such songs stored in said central unit are stored at each of a plurality of sample rates corresponding to said predetermined sample rates.

The central unit may comprise means for inputting data corresponding to a song and means for storing such data. The central unit may comprise means for converting  
20    such data obtained in one format to one or more other formats. The central unit may comprise means for obtaining data in a given format at a plurality of predetermined sample rates.

Preferably, said data communications link comprises a telephone line. Preferably,  
25    said processor unit comprises a modem for connection to said communications link.

Preferably, said central unit comprises means for connecting to a computer network such as the internet. Preferably, said central unit comprises means for searching and downloading songs from the internet.

Preferably, the management system comprises a plurality of remote processor units as described herein.

Preferably, the management system comprises means for allowing one or more songs 5 on the central unit to be previewed by the processor unit. Preferably, said processor unit comprises means for connecting to the internet and downloading information therefrom.

Preferably, said song selection means, said format selection means and/or said 10 sample rate selection means comprise an appropriate user information input device such as a touch screen display.

Preferably, the processor unit comprises a coin handling unit or means for allowing the user to transfer money to the central unit. The processor unit may comprise 15 means for converting data obtaining in one format to another format and/or means for converting data compressed at a given sample rate to data compressed at another sample rate.

Preferably, when the processor unit has completed the download of all new 20 information from the central site, it logs onto the world wide web and downloads a list of top bands or groups web pages which are stored in memory for subsequent viewing without being connected to the internet.

The invention will now be described further by way of example only with reference 25 to the accompanying drawings in which:

Fig. 1 is a flow diagram showing initial selection steps of a processor unit of a system according to the present invention;

30 Fig. 2 is a flow diagram showing operation of the processor unit under CD selection in Figure 1;

Fig. 3 is a flow diagram showing operation of the processor unit under rio selection  
Figure 1;

5 Fig. 4 is a flow diagram showing optional internet download steps of a system of the  
invention; and

Fig. 5 is a flow diagram showing optional format conversion steps of a system of the  
invention.

10 Referring to Figure 1, the processor unit in use displays a main menu to the user. The user then selects a song required at step 2 from a list supplied for example by searching under given parameters such as artist, song type or the like. The display then offers the user a choice of previewing the chosen song or purchasing the song at step 4. If preview is chosen, the processor requests the user to select the bit rate at  
15 step 6. The processor then plays the song at the chosen bit rate step 8 and returns to the main menu. If purchase is chosen at step 4, the user is then asked to select the desired format at step 10, such as whether the song is to be recorded on a CD or rio. If CD is chosen, the processor follows the steps shown in Figure 2. If rio is chosen, the processor follows the steps shown in Figure 3.

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Referring to Figure 2, on selection of the CD option, the processor ascertains at step 12 whether the appropriate deposit of money has been made to the coin handling unit or transferred to the central unit. If not, the processor returns to the main menu. If the money has been deposited, the processor checks at step 14 that a CD is available  
25 for recordal. The user may exit the procedure at step 16 and return to the main menu if desired. If a CD is not detected, the user is asked to insert a CD at step 18. If a CD is detected, the processor verifies at step 20 that the type of CD is correct and if not displays a corresponding message at step 22. An option to exit the procedure and return to the main menu is provided at step 24. If the CD type is  
30 correct, the processor downloads and displays the CD's files information at steps 26 and 28.

The user is then asked at step 30 to choose the format required such as standard or MP3/MP4. If standard is chosen, the processor finds the selected song in memory at standard format (step 32) and downloads the song to the CD (step 34) before returning to the main menu.

If MP3/MP4 format is chosen, the user is asked to select a sample rate at step 36 from a range of predetermined sample rates such as 64 KBPS, 80 KBPS or 128 KBPS. When the sample rate is chosen, the processor locates the song at the selected sample rate (step 38) and downloads the song to the CD (step 40) before returning to the main menu.

Referring to Figure 3, the procedure is similar to that described with reference to Figure 2 and the same reference numerals are used for the same steps. The processor checks whether a rio is connected at 14' and if not displays a corresponding message at 18'. If the rio is detected, the rio files information is downloaded and displayed as steps 26', 28'. The user can then choose at step 42 to download a new song or to delete an old song. If deleting an old song is chosen, the processor finds the old song (step 44), deletes it (step 46) and displays the altered rio files information before giving the user the new song option of step 42. If a new song is to be downloaded, the user is asked to select the sample rate from a range of predetermined rates (step 36) and the selected song is located (step 38) at the selected rate and downloaded (step 40) to the rio before returning to the main menu.

Referring to Figure 4, if the processor is connected to the internet, then when the selected songs have been downloaded, the processor successively locates the websites of the bands or groups corresponding to the songs selected at step 50 and checks whether the website has been updated since the last time the processor entered the site at step 52. If the website has been updated, the processor downloads and saves the new information at step 54 before proceeding to the next band on the list (step 30).

56). If no more bands are detected on the list (step 58) the processor returns to the main menu.

Referring to Figure 5, when the songs and bands information have been downloaded  
5 and the processor has logged off the internet, the processor starts at the first new song selected (step 60) and compresses the song at 80 KBPS and stores the compressed song in memory with a corresponding filename at step 62. The song is similarly compressed at 64 KBPS and stored with a corresponding filename (step 64). The song is also converted to standard CD format and stored in memory under  
10 a corresponding filename. The processor then repeats the procedure for each song downloaded (step 68) and when finished returns to the main menu.

It will be seen that with a system of the invention, the user may choose from hundreds of songs and tunes to be transferred to a CD or rio walkman in one of any  
15 format such as standard, MP3 at 16 KBPS up to 256 KBPS and MP4 and different KBPS. The user can preview the songs at the KBPS he wants. The central site gathers all the songs from the internet and music industry and transmits the information to the individual processor units by telephone. Thus users without rio's or internet access can have all the benefits of music on the internet using the system  
20 of the invention and users can create their own CDs. The system also allows users with internet access an easier method of obtaining the music they desire and the system of the invention is up to seventy times faster than using conventional internet access methods.

25 The reader's attention is directed to all papers and documents which are filed concurrently with or previous to this specification in connection with this application and which are open to public inspection with this specification, and the contents of all such papers and documents are incorporated herein by reference.

30 All of the features disclosed in this specification (including any accompanying claims, abstract and drawings), and/or all of the steps of any method or process so disclosed, may be combined in any combination, except combinations where at least some of such features and/or steps are mutually exclusive.

Each feature disclosed in this specification (including any accompanying claims, abstract and drawings), may be replaced by alternative features serving the same, equivalent or similar purpose, unless expressly stated otherwise. Thus, unless  
5 expressly stated otherwise, each feature disclosed is one example only of a generic series of equivalent or similar features.

The invention is not restricted to the details of the foregoing embodiment(s). The invention extend to any novel one, or any novel combination, of the features  
10 disclosed in this specification (including any accompanying claims, abstract and drawings), or to any novel one, or any novel combination, of the steps of any method or process so disclosed.

**CLAIMS:**

1. A music management system comprising a music management system comprising a central unit having a library of songs stored therein, such songs being stored in each of a plurality of audio signal formats and a searchable database of parameters relating to such songs, a remote processor unit adapted to be connected to said central unit by a data communications link for transferring data from said central unit to said processor unit, said processor unit comprising means for searching said database on said central unit, means for selecting a song from said library, means for selecting an audio signal format, means for obtaining data corresponding to such selected song and format from said central unit and means for storing such obtained data.
- 15 2. A music management system as claimed in claim 1, in which said storage means comprises means for storing such obtained data on a portable memory device such as a compact disc and/or rio.
- 20 3. A music management system as claimed in either claim 1 or claim 2, in which said processor unit comprises a CD or rio read/write device.
4. A music management system as claimed in any preceding claim, in which said means for selecting a format comprises means for selecting from a range of predetermined formats.
- 25 5. A music management system as claimed in any preceding claim, in which said data obtaining means obtains data corresponding to a selected sample rate.

6. A music management system as claimed in any preceding claim, in which one or more of such songs stored in said central unit are stored at each of a plurality sample rates corresponding to said predetermined sample rates.
- 5        7. A music management system as claimed in any preceding claim, in which the central unit comprises means for converting data obtained in one format to one or more other formats.
- 10        8. A music management system as claimed in any preceding claim, in which said data communications link comprises a telephone line.
9. A music management system as claimed in any preceding claim, in which said central unit comprises means for connecting to a computer network, such as the internet.
- 15        10. A music management system as claimed in any preceding claim, in which the management system comprises a plurality of remote processor units.
- 20        11. A music management system as claimed in any preceding claim, which comprises means for allowing one or more songs on the central unit to be previewed by the processor unit.
- 25        12. A music management system as claimed in any preceding claim, in which said song selection means, said format selection means and/or sample rate selection means comprise an appropriate user information input device, such as a touch screen display.
- 30        13. A music management system as claimed in any preceding claim, in which the processor unit comprises a coin handling unit or means for allowing the user to transfer money to the central unit.

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14. A music management system as claimed in any preceding claim, in which when the processor unit has completed the download of all new information from the central site, it logs onto the world wide web and downloads a list of top bands or groups web pages which are stored in memory for subsequent viewing without being connected to the internet.
  15. A music management system substantially as described herein with reference to the accompanying drawings.



Application No: GB 9914550.0  
Claims searched: 1-15

Examiner: Matthew J. Tosh  
Date of search: 27 February 2001

**Patents Act 1977**  
**Search Report under Section 17**

**Databases searched:**

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:

UK Cl (Ed.S): G4A (AUDB), G5R (RB73)

Int Cl (Ed.7): G06F 17/30

Other: ONLINE: ELSEVIER, EPODOC, IEL, INSPEC, INTERNET, JAPIO, TDB,  
WPI

**Documents considered to be relevant:**

Category	Identity of document and relevant passage	Relevant to claims
Y	EP 0817103 A2 (SUN). See line 30, col. 4 to line 32, col. 8 & Figs.	Y:1-4,8-13
X	<a href="http://www.napster.com">www.napster.com</a> (1999).	1-4,8-12
A	<a href="http://www.soundamerica.com">www.soundamerica.com</a> (1997).	
X,Y	<a href="http://www.soundcentral.com">www.soundcentral.com</a> (1996). Note search facility and audio formats.	X:1-4,8-12 Y:1-4,8-13
Y	IBM Technical Disclosure Bulletin (1994), Vol. 37, No. 6B, "Multimedia Audio on Demand".	1-4, 8-13

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
Y	Document indicating lack of inventive step if combined with one or more other documents of same category.	P	Document published on or after the declared priority date but before the filing date of this invention.
&	Member of the same patent family	E	Patent document published on or after, but with priority date earlier than, the filing date of this application.